

XP-002231220

AN - 2001-039247 [05]

AP - KR19990028375 19990714; [Div ex] US19980122015 19980724;  
US20010819787 20010328

CPY - IBMC

- CHAM-I
- MACD-I
- MURR-I

DC - G04 L02 L03 P78 U11

FS - CPI;GMPI;EPI

IC - B44C1/22 ; C03C15/00 ; C09K3/14 ; C09K13/00 ; H01L21/302

IN - CHAMBERLIN T S; MACDONALD M J; MURRAY M P

MC - G04-B04 L02-F04 L04-B04

- U11-A10 U11-C06A1A

PA - (IBMC ) INT BUSINESS MACHINES CORP

- (CHAM-I) CHAMBERLIN T S
- (MACD-I) MACDONALD M J
- (MURR-I) MURRAY M P

PN - KR2000011709 A 20000225 DW200105 C09K3/14 000pp

- US2001013506 A1 20010816 DW200174 C03C15/00 005pp

PR - US19980122015 19980724; US20010819787 20010328

XA - C2001-189283

XIC - B44C-001/22 ; C03C-015/00 ; C09K-003/14 ; C09K-013/00 ; H01L-021/302

XP - N2001-478019

AB - KR2000011709 NOVELTY - A slurry composition comprises abrasive particles and an oxidizing agent having static etch rate on metal of less than 1000 Angstrom /hour. The slurry composition has pH of 5-11.

- DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for polishing of a surface, which involves providing the slurry composition on the surface.

- USE - For polishing surfaces (claimed), for polishing micro-electronic devices, especially in semiconductor device manufacture.

- ADVANTAGE - The slurry composition is capable of removing topography and scratches created during metal polishing. The composition effectively polishes both metal and silicon dioxide at equal rates.

The composition removes residual surface metal, as well as dielectric surrounding the metal, hence creates a highly planar surface both locally and across the wafer. The slurry composition neither settles nor solidifies into a gel, and has a very low or self-limiting static etch rate which prevents unwanted chemical etching of the metal. The composition effectively removes the liner which comprises thin adhesion-promoting material or diffusion-preventing material, and polishes dielectric and conductor concurrently without causing scratching, erosion or dishing. The process effectively removes conductor initially followed by removal of liner material.

- (Dwg.0/0)

IW - SLURRY COMPOSITION POLISH SURFACE MICRO ELECTRONIC DEVICE SEMICONDUCTOR DEVICE MANUFACTURE COMPRISE ABRASION PARTICLE AGENT PREDEFINED PH

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**INW - CHAMBERLIN T S; MACDONALD M J; MURRAY M P  
NC - 002**

**OPD - 1998-07-24**

**ORD - 2000-02-25**

**PAW - (IBMC ) INT BUSINESS MACHINES CORP**

- (CHAM-I) CHAMBERLIN T S
- (MACD-I) MACDONALD M J
- (MURR-I) MURRAY M P

**TI - Slurry composition for polishing surfaces of micro-electronic devices,  
especially in semiconductor device manufacture, comprises abrasive  
particles and oxidizing agent, and has predefined pH**